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ABSTRACT

Twenty-two junior, senior, and graduate students from an introductory counseling class for nonmajors were introduced to the verbal psychotherapies, and randomly divided into treatment and control groups. The groups were treated identically and received the usual instructional program except for the treatment group receiving 30 minutes of instruction in an algorithm for making interpretations. The instruction was presented as a curricular package introduced by written material describing three types of interpretations identified by Levy: (1) reclassifications--placing some client event within a broader class of events (i.e. labeling or naming); (2) connections--connecting aspects of the client's behaviors or experiences in ways not recognized by the client; and (3) explanations--introducing a more abstract idea to account for behavior or connections. The algorithm outlined a process for identifying conditions appropriate to making an interpretation, for formulating an interpretation according to one of the three types, and for following up on that interpretation. In role-played interviews, the treatment group made more than the expected number of moderate and deep interpretations; the control group made fewer. (Author/RL)

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Test of an Algorithm for Interpretations

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Abstract

Twenty-two students from an introductory counseling class for nonmajors were introduced to the verbal psychotherapies, and randomly divided into treatment and control groups. The greatment group received 30 minutes of instruction in an algorithm for making interpretations. In role-played interviews, the treatment group made more than the expected number of moderate and deep interpretations; the control group made fewer.

Matarazzo (1978) has noted how few studies investigate the teaching of higher-order counseling skills. One possible model for investigations of those skills is the algorithm, defined by Landa as "a precise, generally comprehensible prescription for carrying out a defined (in a particular case) sequence of elementary operations (from a system of such operations) in order to solve any problems belonging to a certain class (or type)" (Landa, 1966/1974, p. 11).

The problem addressed by the algorithm of this experiment is that of the counselor who must decide whether to use an interpretation and, if the decision is made to interpret, how to construct the interpretation. Levy (1963) is still the prime source for information about interpretive theory and technique. Levy defines three kinds of language substitution which are called interpretations. The three substitutions are: "reclassifications," a relabeling of feelings, thoughts, interactions or situations; "connections," the connecting of aspects of previously unconnected experience; and "explanations," the naming of underlying causes which explain the reclassifications or connections. Although Levy offers the strongest theoretical base for work on interpretations, research done by Harway et al. (1955) on depth of interpretation and by Speisman (1959) on client resistance to interpretations provides the empirical base.

Hummel (1976) has suggested that algorithms can be adapted to counseling and Shaffer and Hummel (1979) and Shaffer and Hasegawa (in press) have successfully tested a series of algorithms for empathic responding and for additive empathy. Those algorithms, like the one in this experiment, had elements that were undefined and referred to internal events without specifying the internal steps. Landa suggests that algorithms which have components which are undefined or unspecified should be called "algorithmic descriptions" (Landa, 1975/1976, pp. 111-112). The "interpretive algorithm" described here is such an algorithmic description, but for brevity's

sake will be called an algorithm in this study.

The general research question for this experiment was: For students enrolled in an introductory counseling course, will 30 minutes of instruction in using an algorithm when choosing and formulating interpretations increase performance in a role-played counseling situation above that which is obtained by the usual instructional program? As in the previous research on counseling algorithms, subjects in an introductory counseling course were randomly assigned to experimental and control groups and the groups were treated identically except for the experimental group's exposure to the interpretive algorithm. Rather than using a "no treatment" control, this research followed the common practice in experimentation of comparing a new procedure with an accepted standard to ascertain whether an increase in performance accrues.

Subjects and Procedure

Twenty-seven subjects, the total enrollment of an introductory class in counseling for junior, senior, and graduate student nonmajors, were introduced to the verbal psychotherapies. The class received 12 hours of regular classroom instruction, the "usual training" in this course, and were assigned readings outside of class. There were 7 hours on Rogerian technique (described in greater detail in Shaffer and Hummel, 1979) and two and one-half hours of instruction on career counseling which, like the Rogerian training, included role-played practice. A further 90 minutes of lecture and role-played practice introduced the subjects to interpretive theory and technique. The 90 minutes began with a presentation of a theoretical framework drawn from Levy (1963), Harway et al. (1955), and Speisman (1959) in which degree of client resistance was portrayed as a function of (discrepancy) depth between the client's and counselor's language systems used to understand the client's experience. This didactic presentation was followed by subjects' listening to audiotapes of the two different interpretive styles (audiotaped from printed interviews in Snyder, 1953, pp. 292-295, and Ellis, 1973, pp. 185-187).

These provided varied examples of psychological interpretations as well as an opportunity to compare degrees of depth between responses. All subjects then participated in two seven-minute role played client situations. In one they were asked to decide whether a psychoanalytic or rational emotive framework best suited a given client role and in the second they were asked to practice making their own interpretations. Each student pair role played both the client and the counselor and, while playing the counselor, received feedback on the adequacy and depth of interpretive responses.

At this point, following the standard teaching on interpretations, subjects signed up for an interview time. Each day's subjects were randomly assigned to the experimental or control group. The control group was dismissed and the experimental group received 1/2 hour of instruction on structures of interpretive responses (Figure 1) and on an algorithm (Figure 2) for their use. Material was presented in written form and reviewed verbally by the instructor. Subjects were then guided through the algorithm "worksheet" (Figure 3) in which appropriate interpretations were devised in response to hypothetical client statements. At the close of the presentation, experimental subjects were requested not to share their material or information with control subjects.

The experiment itself consisted of subjects conducting 15 minute counseling interviews with a coached client. Interviews were run over a four-day period. Prior to each interview, the experimenters gave individual subjects a written summary of two previous interviews that the subject had hypothetically conducted with this client (Figure 4). The subject was asked to treat this as a third rather than a first session since interpretations are generally considered more appropriate after the initial session. After 10 minutes reviewing this material alone, the subject was given verbal instructions that this client was suitable for interpretive counseling, that the subject was to use what had been learned in class, and that the task was to make as many appropriate interpretations as possible. Each subject was

then introduced to the client and left to conduct the interview. After fifteen minutes, the interview was interrupted and terminated. The summary notes were collected and the subjects cautioned not to discuss the experience with classmates. All interviews were audiotaped and were conducted in an office-sized counseling interview room in which the client and subject sat facing each other with the microphone off to the side.

The client role was constructed to allow for exploration of six related aspects of the client's life. The role was that of a 30 year old female graduate student in sociology. The six aspects were ordered in terms of degree of threat to the client from school difficulties to perceived abandonment by a female friend, abandonment by her husband, competition with her sister, uncertainty about her father's love, and resentment towards her mother for perceived double messages about expectations. The interrelatedness of these aspects was intended to facilitate interpretive linkages, classifications and explanations. The client moved to more threatening material consequent to interpretations of an appropriate level. If subjects remained reflective, the client resisted by delaying before bringing in more information but would eventually bring in pieces of the next aspect to stimulate the subject. If subjects interpreted too "deeply" the client would resist or express a lack of comprehension. Standardization of the role resulted from 10 hours of practice with the experimenters and experience with 17 students in two pilot studies. The woman who played the client was a Ph.D. clinical psychologist with experience in both psychotherapy and therapy research. Her experience was deemed essential in the complex requirements of recognizing interpretations and in assessing varying depths of interpretations in relation to her own client statements.

Of the twenty-seven original subjects, the interviews of two were lost due to mechanical failure in the recording equipment. Three subjects who had been among the original 27 in the class were eliminated prior to random assignment

because they missed some part of the 90 minute standard teaching. As a result the final sample size equalled 22, with 12 experimental and 10 control subjects.

Independent Variable

Knowledge of the basic structures of interpretive counselor responses and of the algorithm for constructing them constituted the independent variable. The instruction was presented as a curricular package introduced by written material describing underlying sentence structures for three types of interpretations identified by Levy (1963). These were: reclassifications - placing some client event within a broader class of events (i.e. labeling or naming); connections - connecting aspects of the client's behaviors or experiences in ways not recognized by the client; and explanations - introducing a more abstract idea to account for behavior or connections. The algorithm drawn from the Levy definitions outlined a process for identifying conditions appropriate to making an interpretation, for formulating an interpretation according to one of the three types, and for following up on that interpretation. The counselor first decides to interpret if two conditions based on Levy (1963) exist: (1) the client remains confused or misconstrues his/her behavior despite other techniques such as reflection and (2) the counselor has constructed a formulation of that behavior which differs from the client's. Having made the decision to interpret, the counselor shapes his/her observations according to one of the three interpretive types and is reminded to phrase the interpretation, once verbalized, tentatively, as a proposal rather than an imperative. The counselor is then instructed to examine the client's reaction for any indication of resistance or acceptance. If resistance is encountered, the counselor is reminded that his interpretation may be too deep and presented two options--to clarify or return to non-interpretive techniques. Similarly, if the client accepts the interpretation, two other options are presented--to elaborate further or to return to non-interpretive techniques until conditions exist for another interpretation.

Dependent Variable

Taped interviews were transcribed and rated using an operationalized version of the Harway et al. Depth of Interpretation Scale (Harway, 1955). Operationalization of scoring rules made it possible to differentiate interpretations from other types of counselor responses (reflections, opinion, advice, etc.) while also retaining a notion of depth consistent with the original Harway Depth of Interpretation Scale (DI). Thus both a frequency of interpretive responses and depth could be measured simultaneously. An individual response rating indicates whether or not it was an interpretation and how deep it was as a response. Operationalization also made the scale useable by relatively naive raters not steeped in psychoanalytic background.

The operational DI scale remained a 9-point, equal-appearing interval scale anchored by "mirroring" responses at one end and responses completely beyond the client's awareness at the other. The DI had earlier been found reliable in a series of studies (Harway et al., 1955, Raush et al., 1956, and Sperber, 1956). Validity data was subsequently provided by Speisman's findings that, when the nine-point scale was collapsed to three points, the deep levels of interpretation led to greatest client resistance, shallow to an intermediate amount of resistance, and moderate to the least.

For the present study, a decision was made to collapse the ratings as Speisman had done. The hypothesis was that experimentals would produce more moderate level interpretations, and more moderate and deep interpretations than control students when shallow responses were defined as responses scored from 1 to 2, moderate responses were defined as responses scored from 3 to 5, and deep responses were defined as responses scored from 6 to 9.

Raters were two beginning graduate students in counseling who were given 15 hours of training on pilot study transcripts in use of the scale. Their pre-established agreement ranged from 71.4 to 94.4% for seven pilot study subjects.

For the preliminary data analysis reported here, the scores of the first rater to complete scoring were used. Both raters' scores will be incorporated in the more complex analysis which is planned.

Results

The obtained (and expected) frequencies for the Harway DI Scale are given in Table 1. The 12 treatment subjects gave a total of 488 responses; the 10 controls gave 458. Of those responses, the treatment group differed from the control group in the type of responses made. The treatment group made more than their expected number of moderate and deep and fewer shallow responses. In contrast, the control group gave more shallow responses than would be expected and fewer moderate and deep interpretations. A X^2 of 6.37 for the 3 X 2 table was significant at the .05 level. The groups differed on the basis of the random assignment of subjects to treatment and control conditions.

Discussion

These preliminary findings of this study indicate that the algorithm is useful for teaching basic interpretive skills. The experimental group made significantly more deep and moderate interpretations than would be expected by chance, the control group significantly fewer.

The limitations of this study are the limitations of the preliminary analysis. Other analysis with more complex data (profile analysis, perhaps of the full 9-point Harway Scale) will delineate the effects of the treatment more precisely. In further research using interviews from a natural setting, the use of a modified Speisman Scale for Resistance as a criterion measure would add validity to whatever claims are made for the algorithm. Nevertheless, it is important that the use of the algorithm made a difference in favor of the experimental group when the sample sizes were small and when both the experimental and control subjects were given a minimal amount of training in making interpretations.

Table 1

Chi Square Analysis of Treatment and Control Responses

	Shallow	Moderate	Deep	
Treatment	302 (310.55)	175 (170.75)	11 (6.71)	488
Control	300 (291.45)	156 (160.25)	2 (6.29)	458
	602	331	13	946

$\chi^2 = 6.37$

$\rho > .05$

Figure 1

INTERPRETIVE TYPES

Psychological interpretations are intended to expand your client's awareness in a direction consistent with your theoretical point of view. There are three types of interpretations: reclassifications, connections, and explanations. Regardless of the form you use to verbalize an interpretation to your client, every interpretive response can be identified as a derivative of one of these three types. The interpretive forms you use will vary depending on your personal style and the demands of the situation. Any interpretation will probably be more readily considered by your client, however, if you remember to offer it in a tentative way, as a different point of view which may be helpful or relevant. As the examples below suggest, you may introduce tentativeness in a variety of ways. The following sections outline the three types of interpretations and demonstrate a variety of interpretive forms.

I. Reclassifications--Relabel behavior or experiences (feelings, thoughts, interactions, situations) your client describes or you observe (in session) with language drawn from your frame of reference or theory. Reclassifications can provide a relatively non-threatening way of introducing your perspective.

_____ could be called _____
(client language) (counselor language)

Examples:

1. (Client reports being alarmed by how much he is sleeping and is unhappy with his lack of productivity on projects)

   "I wonder if you have considered your sleeping a lot as a form of procrastination."

2. (Client is confused about her recent impatience with her children)

   "Your impatience with the kids may be an indication of your anger toward someone else."

II. Connections--Connect aspects of your client's behaviors/experiences in a way your client has not recognized. You might, for example, connect the occurrence of certain feelings with particular behaviors or point out similarities or dissimilarities of behavior, feeling or thought in different situations. Again, these are situations or interactions the client refers to or ones which arise in the session itself.

When/if _____ occurs, then _____ occurs

Examples:

1. "It occurs to me that when you procrastinate with your projects you feel more depressed."

2. "You seem to displace your anger when you've been arguing with your husband or have been criticized by your boss."

III. Explanations--Introduce a more abstract idea to account for or explain behavior or connections among experiences. The explanatory idea is an abstraction in the sense that it is not an observed event, but rather is a hypothetical construct which is explicitly stated in the interpretation. Usually explanations are more effective when the client has been previously introduced to your theoretical perspective through reclassifications and connections.

_____ accounts for observed behavior or connections among experiences

Examples:

1. "I would hypothesize that irrational expectations lead to your procrastinating and perpetuate the depression."

2. "Frequently a sense of inferiority underlies this kind of anger displacement."

Figure 2

ALGORITHM FOR INTERPRETATIONS

1. You can make an interpretation when two conditions exist. Evaluate the client's statements in terms of their consistency with your theoretical point of view. If:

   a. the client's statements indicate that he/she is remaining confused about or is continuing to misconstrue aspects of his/her behavior or experiences (thoughts, feelings, interactions, situations) despite your reflections and questions

   and

   b. you have sufficient information to reformulate or tie together aspects of the client's behavior or experiences in a way which will be new for the client.

   Then go to 2.

   If either or both of these conditions do not exist, do not proceed in this algorithm at this point. Continue with noninterpretive techniques.

2. To formulate your interpretation, place your observations in the most appropriate interpretive type below.

   I. Reclassification

   _____ could be called _____

   II. Connecting

   when _____ occurs, then _____ occurs

   III. Explaining

   _____ accounts for behavior or for connections among experiences.

   Go to 3.

3. Adapt the content and interpretive type to a form consistent with your personal style and verbalize your interpretation to the client. Since you are "proposing" the interpretation, remember to phrase it tentatively. Go to 4.

4. Evaluate the client's reaction to your interpretation. If the client resists your interpretation (is unable/unwilling to consider your alternate point of view), go to 5. If the client accepts your interpretation, go to 6.

5. If the client resists your interpretation it may indicate that you made observations or used language which were too far beyond the client's awareness. If you think an immediate clarification will move the client toward acceptance of your interpretation and you have a way of clarifying what you meant without needing more information, return to 2 and revise your interpretation being more explicit or concrete.

   If you think that a) you cannot make interpretation clearer without gathering additional information, or b) the client is likely to resist your revised interpretation, then return to 1 and continue with noninterpretive techniques until conditions warrant your next interpretation.

6. If you think the client can benefit from further elaboration of your interpretation and you can elaborate by tying in related behavior/experiences or suggesting how the connected experiences form broader patterns, you may choose to immediately expand on your interpretation. Return to 2.

   If you choose not to elaborate on your interpretation at present, return to 1 and use noninterpretive techniques until you are ready to make another

Figure 3

WORKSHEET

1. a) Client remaining confused or continuing to misconstrue behavior or experience (in light of your theoretical perspective) despite reflections and quesions?
_____ Yes _____ No

b) You have sufficient information to reformulate or tie together aspects of behavior or experience in a way client hasn't recognized?
_____ Yes _____ No

If both are Yes, go to 2.
If either are No, do not proceed in algorithm at this point; continue with non-interpretive techniques.

2. Formulate your interpretation. Place observations in blanks of appropriate type: I (reclassification), II (connection), III (explanation).

I. _____ could be called

_____

II. When _____ occurs, then

_____ occurs.

III. _____ accounts for behavior

or for connections among experiences.

3. Adapt content and type to personal style and add tentative phrasing:

_____

_____

Verbalize and then go to 4.

4. Evaluate client reaction to interpretation:
resists (won't/can't consider) _____ Go to 5.
accepts _____ Go to 6.

5. a) Immediate clarification might move client toward acceptance? _____ Yes _____ No

b) You have a way to clarify without gathering more information? _____ Yes _____ No

If both are Yes, return to 2 and revise interpretation. Make observations more specific and language more concrete.
If either are No, return to 1.

6. a) Immediate elaboration beneficial? _____ Yes _____ No

b) You can tie in related behavior/experiences or connect in broader patterns?
_____ Yes _____ No

If both are Yes, return to 2 and note related behavior/experiences or patterns.
If either are No, return to 1 until ready for next interpretation (on this or a different topic).

Figure 4

Notes on Barbara

You are preparing to see a client for your third session. The following notes summarize the information you have obtained over the first two sessions.

Session 1

Barbara is a 30 year old graduate student in sociology at the university whose presenting complaints focused on her inability to make progress on upcoming preliminary exams. She reports an inability to concentrate or relax, restlessness, uncomfortable feelings of tension, difficulty sleeping and frequent feelings of fatigue, all of which have been present over the past month. She reports that she finds multiple ways of avoiding studying--going to movies, cleaning and recleaning her apartment, reading newspapers, mystery novels, and junk mail, and sleeping. She is employed half time as a teaching assistant in her department.

She has lived alone since her divorce two years ago. She reports having put her ex-husband through medical school and then being "dumped" as he subsequently married a friend he had known in school. She has dated some over the past year but reports no long-lasting dating relationships since her divorce. She reports having some current difficulties with her best friend, Cindy, and appears to have concerns about the reliability of that relationship. She describes a group of women students in her department who are "acquaintances" and toward whom she has recently felt substantial irritation.

She has a younger sister who is married with "three children, a Brooks Brothers husband, a shaggy dog and a station wagon with wood on the side" and lives on the west coast. Barbara's parents live on Long Island where she grew up. Her father is an attorney; her mother a homemaker who reportedly "gave up a promising career as a performing pianist to get married." She describes her mother as "very intelligent" and her father as a "hardworking, gentle" man.

Session 2

Barbara reported that the symptoms she described at intake were persisting and that she still had not been able to get any work done on her prelims. She talked about the group of acquaintances at school and acknowledged that she felt like an outsider. She later stated that she felt ok about not being admitted as a confidant to that group as she really wasn't interested in closer contact with any of them anyway. She spent considerable time elaborating her perception of the differences between people from the east coast and those from the midwest.

She also elaborated on her feeling that her good friend Cindy has become "more distant." While she noted that Cindy explained the change as being due to increased responsibilities at school, Barbara asserted her own belief that Cindy's new boyfriend was inheriting the time she and Cindy used to spend together.

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